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DOMINION OF CANADA

DEPARTMENT OF THE INTERIOR

HONOURABLE CHARLES STEWART, Minister

W. W. CORY, C.M.G., Deputy Minister

J. D. CRAIG,
Director General of Surveys

F. H. PETERS,
Director, Topographical Survey

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TOPOGRAPHICAL SURVEY BULLETIN No. 61

REPORT OF AN EXPLORATORY TRIP IN THE AREA COVERED
BY HALFWAY RIVER AND PROPHET RIVER SHEETS

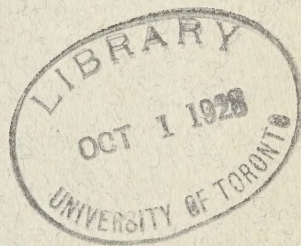
(Sheets Nos. 94B and 94G)

OF THE

NATIONAL TOPOGRAPHIC SERIES

IN THE PROVINCE OF BRITISH COLUMBIA

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OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1928

Price, 10 cents

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FOREWORD

The area described in this bulletin was covered by the exploration surveys of K. F. McCusker, D.L.S., during the season of 1927. As a result of these surveys the Halfway River and Prophet River sheets of the National Topographic Series (Exploratory edition) are being issued. The bulletin has been prepared to meet the many requests that have come to this office for descriptive information regarding this interesting area.

F. H. PETERS
Surveyor General.

OTTAWA, CANADA.

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HALFWAY RIVER AND PROPHET RIVER SHEETS OF THE NATIONAL TOPOGRAPHIC SERIES

GENERAL DESCRIPTION

During the summer of 1927, a study of the geological formations in an area in British Columbia lying to the north of the upper waters of Peace river was carried on by one of the important oil companies in Canada. This company sent in a party which conducted these investigations for a period of five months, in general covering the territory included within longitudes 122° and 124°, and latitudes 56° and 58°, or the territory covered by the Halfway River and Prophet River sheets of the National Topographic series. This area is divided into two drainage systems, one flowing into Peace river and the other into the Liard. The Peace River drainage is formed by Beaton river and by Halfway river with its four tributaries: Graham river, Chowade river, Cypress creek, and Cameron river. The Liard drainage is formed by the Sikanni Chief and Prophet rivers and their tributaries.

Arrangements were made with the oil company whereby the writer was attached to the party mentioned above for the purpose of collecting topographical information with a view to preparing maps of the country later on. The information collected during the summer enables the blank spaces of this portion of the map of Canada to be filled in for the first time. The exploratory maps issued as a result of the work will serve a most useful purpose in that they will very greatly assist those who wish to travel into this country for whatever purpose. The sheets issued are the Halfway River (No. 94B) and Prophet River (No. 94G) sheets of the National Topographic series on the four-mile scale, respectively covering between longitudes 122° and 124°, the areas included within latitudes 56° and 57° and latitudes 57° and 58°. The area is also covered by the western half of the eight-mile sheet No. 94 S.E.

The point of organization of the party was Edmonton, Alberta. From this city we travelled by train to Peace River, and thence by the Alberta and Arctic Transportation Company's steamer *D. A. Thomas* to Hudson Hope at the head of navigation on Peace river in British Columbia.

From Hudson Hope the actual investigation was carried on using a pack train of nineteen horses and a party of five men.

Peace river is remarkable for the fact that it rises to the west of the main range of the Rocky mountains and cuts its way through them. This was first noticed and described by Sir Alexander Mackenzie on his journey to the Pacific in 1792 and 1793. Selwyn in 1875 and Dawson in 1879, both Dominion Government geologists, mapped the valleys of the headwaters of Peace river and one of its principal tributaries, the Parsnip.

Some time later two geologists, McConnell and Robertson, explored Peace river and its principal tributaries.

In 1891, William Ogilvy, D.L.S., of the Department of the Interior, made an exploratory traverse up Liard and Fort Nelson rivers to the foot of the cañon on the Fort Nelson, some 130 miles above Fort Nelson post. Here he was deserted by the Indians during the night and alone he made the journey overland to Fort St. John on the Peace.

In 1921, when it became necessary to push control surveys forward in the lower Mackenzie district, A. M. Narraway, D.L.S., of the Topographical Survey,

Department of the Interior, investigated the possibilities of overland transportation from Fort St. John to Fort Nelson river. As a result, a trail was laid out between these two places and this is now the main highway into the lower Fort Nelson River country. The trail proved a boon to the little frontier settlement of Fort St. John. Since its opening out, the source of revenue of the settlers has been derived from trapping in the country to the north and from supplying produce to freighters going over into the lower Fort Nelson country.

In 1911, Major Hart of the Royal North West Mounted Police made an exploratory trip across from Dease lake in northern British Columbia to Fort Nelson and then up Prophet river to the point where it leaves the mountains.

In addition to the route used by us to reach Hudson Hope, there is one by way of Prince George on the Canadian National railways. This latter route is over Giscome portage to Summit lake, thence through a series of lakes and streams and down Parsnip and Peace rivers to the west end of Mountain of Rocks cañon, from which a portage of fifteen miles leads to Hudson Hope. On this route there are only two rapids, Finlay rapids and Ne-parle-pas rapids. Finlay rapids are about half a mile below the junction of Parsnip and Finlay rivers and can be run on the south side. Canoes can also be tracked up on that side. Ne-parle-pas rapids are short with heavy swells. These can be run on the north side with canoes.

ROUTE TRAVELLED

In starting to undertake the actual investigation of the district, our party crossed from Hudson Hope over Hudson Hope portage. To the south of the portage trail Bullhead mountain rises to an altitude of 4,400 feet and to the north Butler range, a range of bald rocky mountains, stretches as far as Graham river. The trail follows stony ridges, mostly covered with green spruce, jackpine and poplar. Beyond Bullhead mountain the famous cañon of the Peace drops some 272 feet in about fifteen miles. Portions of this cañon have never been seen; it is impossible in places to look down into it from the side and no one has ever gone through alive. Even the logs that may pass through are badly battered up from their journey. Near the lower end of the cañon a coal mine has been opened out, the coal being taken from a vein five feet six inches wide by 150 feet long. This coal is semi-anthracite, low in ash, and exceptionally easy to mine as the vein slopes towards the river. It is used by the settlers in the neighbourhood.

Beyond the portage, our route lay along the north bank of Peace river to Aylard (Twenty-Mile) creek where we turned to the north.

Portage to Aylard (Twenty-Mile) Creek.—The first half of the journey is over a succession of benches stretching to two and one-half miles back from the river. Many open patches could be cultivated immediately. The remainder, if cleared of the present light growth of spruce, poplar and jackpine, would be excellent land, the soil being loam and silt. Three large creeks afford excellent water for stock, and as this is soft water, coming from the snow of the higher lands, and as the creeks have considerable fall, it would be quite easy to put in irrigation systems.

To the south of Peace river, the valley banks rise more or less gradually and are timbered with poplar to 12 inches, spruce to 12 inches, and balm of Gilead to 36 inches in diameter. On the sky line is seen Mount Gething which has an elevation of 5,000 feet above sea level.

From Dunlevy creek west the valley to the north narrows down and the trail passes between the river and high rocky hills mostly bald but timbered on the top in a few places. To the south of Peace river here, there is a bench about three hundred feet above the river level, covered with spruce and poplar.

Settlement at Aylard (Twenty-Mile) Creek.—Where Aylard creek flows into Peace river and for some three miles west, there is a small scattered settlement. On the principal ranch there is a home-made irrigation plant capable of watering the entire place.

Many cattle and horses are ranged in the area and for many years excellent crops have been raised of wheat and oats, and fair crops of corn, as well as some alfalfa, brome and western rye. Potatoes have never yet been frozen. The open hills to the north covered with bunch-grass afford excellent pasture.

Mouth of Aylard (Twenty-Mile) Creek to Graham River.—This trip of about twenty miles occupied two days of actual travel. The trail follows up Aylard creek and down an unnamed tributary to the Graham. North of the grassy hills previously mentioned the trail passes through others which are timbered with spruce and jack pine, some of which are merchantable. The ascent of about 1,800 feet from Peace river to the height of land in the pass is gradual as is also the descent into Graham River valley. At the summit of the pass are several small meadows which afford abundant pasture for pack trains passing through.

While at Aylard (Twenty-Mile) summit eighteen inches of snow fell. This was on the 23rd of May. Tracks of cougar and grizzly bear were observed in the snow and one grizzly was sighted.

Graham River.—Graham river, the south fork of Halfway river, carries a volume of water about half as large as the main river. Our course led us up Graham river to its source in Laurier pass, the lower part being explored on the return trip.



CHRISTINA FALLS—GRAHAM RIVER

With an estimated fall of more than two hundred feet over a sheer cliff of vertical rock strata, Christina falls lies at the head of an eight-mile gorge on Graham river, through which the river plunges in a continuous series of rapids.

From the mouth of Graham river upstream for ten miles is an area of open land, extending one to two miles north from the river and comprising some 13,000 acres. This is a country of sandy loam soil over clay or gravel. It produces excellent hay and appears to be good agricultural land.

We travelled upstream, our trail following Graham river for the most part. To the north, Hackney hills, a series of bald hills covered with bunch-grass, rise to an altitude of 4,300 feet above sea level. To the south, hills timbered or covered with burnt timber rise to 4,500 feet. The valley bed rises rapidly as we travel westward and as it rises the hills are relatively lower.

Immediately to the north of this river at longitude 123° there is a prairie of about 300 acres of black loam soil with good grass, known locally as "Crying Girl" prairie. Farther on, at what is known as "Long" meadows, there are about 1,000 acres of open hay land.

The river is swift and the valley is more of an asset for its scenic and hunting value than for its agricultural possibilities. The vicinity of the three forks, Justice, Poutang, and Horn creeks, is the home of goat, sheep, caribou and moose. The waters of these streams teem with Dolly Varden, rainbow and brook trout. At "Long" meadows the river drops 225 feet in Christina falls over a sheer cliff of vertical rock strata, from which it emerges and flows swiftly through a gorge for about eight miles.

Laurier Pass.—At Laurier pass, leading from Halfway waters to the Ospika farther west, four forks of Halfway river rise very close together and take very diverse routes before their waters unite.



LAURIER PASS

The highest point in Laurier Pass has an elevation of approximately 5,200 feet and is close to the timberline. The photograph was taken on the second day of June. In September when the party returned the hay in the meadows here stood shoulder high. Through this pass some thirty years ago Inspector Moodie of the Royal North West Mounted Police blazed a trail on his way to the Yukon.

On the pass and in its valleys there are meadows of timothy, red top, peavine and vetch. To the west the glaciers of the main range are just above. The portion of the pass west from Graham river is choked with windfall. That part east to Cypress creek is not difficult of ascent while that to the north or main Halfway river is low.

Chowade river.—Chowade river rises just east of a range of round grass-topped hills near the pass and flows easterly. This valley may be reached by an indistinct Indian trail which extends over a mountain 4,500 feet in altitude

from the point where Horn creek and Graham river join. Chowade river is 100 feet wide and flows fairly straight through a semi-open, more or less swampy, valley with rounded bald-topped hills which become lower and lower to the east.

From our camp on Graham river in Laurier pass, we travelled easterly through a narrow valley which drops steeply and, to the eye, almost imperceptibly. From a bald mountain near the pass an excellent view was obtained to the far north. Here it was found that the mountains follow a general course N. 20° W., while to the east and paralleling them a strip about thirty miles wide of grass-topped smooth-lined hills rise to 5,000 or 6,000 feet.

Cypress Creek.—The valley of Cypress creek is about a mile wide. The open valley bottom which is covered with ground cedar and Rocky Mountain birch has a luxuriant growth of timothy, redbtop, peavine and vetch. Spruce of large girth and short stature and on which the branches extend from the ground, grow for a distance up the hill sides and are to be seen in patches in the valley.

Farther east the timber assumes more normal proportions and the hills become lower and more rounded. For the last six miles above the point where the creek emerges from the hills there is a strip some two and one-half miles wide of large spruce from 36 to 40 inches in diameter.

The old Mounted Police trail cut by Inspector Moodie in 1897 and 1898, while locating an overland route to the Yukon, follows Cypress creek. This trail, although used to some extent by prospectors and others in an endeavour to reach the Yukon, was shortly afterwards given up in favour of the easier route by way of the Pacific. Old toboggans and harness, now moss-covered, remain as evidence of these early pioneers; in one place a stone with the inscription chiselled on it:

“Alex McDonald, Died July 15, 1898”

bears mute testimony to the fact that many laid down their lives in attempts to reach the land of their dreams by this route. Mile posts along the route are still to be found in places.

Inspector Moodie made the journey from Edmonton to Dawson by pack train in about thirteen months. His journey was by Fort St. John, Fort Grahame, Sifton pass, Turnagain and Dease rivers to Liard river, up Frances river to Frances lake, over the divide into Pelly river, down Pelly river to Selkirk and Dawson. In his report he mentions a sufficiency of horse feed everywhere and in many places an abundance.

East from a point eight miles above the junction of Cypress creek and the Halfway is a bench of park country where bluffs of large poplar alternate with patches of prairie. Here a luxuriant growth of grass is supported by a sandy loam soil to a depth of six or eight inches overlying a gravelly subsoil.

Halfway River.—Near the forks of Cypress creek and Halfway rivers heavy crops of brome grass and western rye are grown as well as oats for feed, potatoes and other garden truck.

The main Halfway, a river varying in width from one chain at its source to ten chains at its mouth, flows swiftly and is very treacherous. It rises in Robb lake. This lake has an altitude of 4,000 feet, and takes its water supply from the surrounding glaciers. A few miles below Robb lake, a branch enters from the southwest and six miles below this point there is a series of small falls and rapids.

Above these falls the valley is from one to two miles wide and supports a heavy growth of timothy, peavine, vetch and redbtop. On both sides of Halfway

river here mountains, lightly timbered to semi-open, rise to 6,500 feet. Below the falls to a point near the mouth of Quarter creek where the river emerges from the mountains, the valley is partly open, partly wooded and about two miles wide. The soil in the valley is sandy loam and there is excellent grass throughout. Between the falls and Quarter creek, three creeks enter from the north. Along one of these a low pass leads to Sikanni Chief river.

In the valley of Quarter creek and downstream along the Halfway are benches with good agricultural soil, alternately open or timbered with spruce, and supporting a good growth of vegetation throughout. These benches continue all the way down Halfway river. They would provide locations for settlement which would compare favourably with those already occupied by the few settlers now scattered along the river.



HORSE RANCH ON HALFWAY RIVER

This ranch is located near the junction of Halfway river and Cypress creek. Here the open grassy hillsides and the abundance of water provide ideal range.

From a point about sixteen miles above its junction with Cypress creek to its confluence with Graham river, Halfway river is bounded on the east by valley banks which rise abruptly to a height of some 600 feet. To the east of this there are ridges of boulder clay alternating with more or less swampy areas.

Cameron River.—Cameron river rises in three small lakes to the east of Pink mountain, a mountain with an elevation of 5,400 feet above sea level lying easterly from Quarter creek. Cameron river flows through a low mossy valley, 6 miles wide, with low hills on either side until it meets the main Halfway just east of the west boundary of Peace River Block. Pink mountain is itself a point of particular interest as a definite landmark in this locality. It stands apart from the main range and its summit affords an excellent view of the country lying on all sides of it.

Beatton River.—Beatton (North Pine) river was always supposed to rise in the mountains, but our investigation showed that it rises in three muskegs not far from the source of Cameron river in a narrow wedge between Halfway and Sikanni Chief rivers.

Sikanni Chief River.—Sikanni Chief river rises in the glaciers near the summit of the main range. Its upper waters are divided into two main forks. The northerly fork rises in springs fed by glaciers and leads to Akie pass. From the same series of springs the headwaters of the Akie start on their course to Finlay river to the west. This pass is one of the best along the entire chain of the Rockies. The divide itself, in the midst of the pass, is at an altitude of about 4,100 feet with hills to an elevation of 7,000 feet on both sides.

In the mountains the valleys of the two main forks of Sikanni Chief river vary from one-half mile to two miles in width and have patches of excellent grass throughout. That portion of the drainage area of Sikanni Chief river, lying to the south and extending easterly from its exit from the mountains, is very narrow. In approximate longitude $122^{\circ} 45'$ the river enters a cañon from 500 to 1,000 feet deep. This cañon is forty-two miles long and along this stretch there are only two places where horses can be taken down. Even then it is only possible to cross late in fall as the current is too swift for rafting. From barometric elevations taken above the cañon and also twelve miles below the foot of the cañon there appears to be a drop in the river in this distance (approximately 54 miles) of about 800 feet. In this distance, however, no actual falls were seen although the water is very swift with very rocky rapids in places.

A branch of Sikanni Chief river called Buckinghorse river rises to the east of the mountains and for a considerable distance parallels Sikanni Chief river on the north. Buckinghorse river passes through a succession of open or semi-open grassy flats with hills of brûlé or light spruce, poplar and jackpine beyond. The soil is generally clay loam over clay.

From our crossing at the head of the cañon of Sikanni Chief river we travelled in a course about 10° west of north to latitude $57^{\circ} 40'$. After crossing Buckinghorse river we travelled along the west side of a steep side hill, which rises to a plateau at an altitude of 3,500 feet. This plateau, which extends east to Sikanni Chief river, is a veritable jungle. Its top is nearly level and timbered with jackpine and spruce to 6 inches with swaths of windfall. Numerous creeks flow down the sides and have eroded it, forming steep-sided cañons. This area extends north to the valley of another tributary of Sikanni Chief river, called Trutch creek.

Summerland.—The trail led to the head of Minaker river, the most easterly tributary of Prophet river. From about a mile east of this river to the base of the Rocky mountains, a strip of land extending northerly and about fifteen miles wide is a country of wide valleys, lightly timbered and in places open, which stretch to Prophet river. Excellent clay loam soil supports hay, peavine, vetch, sweet clover, and all kinds of wild berries. The creeks teem with fish, mostly rainbow, brook and Dolly Varden trout. An exact estimate was not made of the area but there are possibly some 38,000 acres which could undoubtedly support a thriving settlement when transportation and the need for produce warrants the land being taken up. This area is bounded on the west by Klingzut mountain, a high bald mountain, to the east of and standing apart from the main range. As with Pink mountain, previously mentioned, the summit of Klingzut mountain provides an excellent view of all parts of the surrounding country.

About a quarter of a century ago this country was inhabited by Beaver Indians who traded at Fort St. John and who in their own language called it Summerland. Due to tuberculosis, influenza, measles, and other diseases, however, they have become greatly depleted in numbers. Trails, formerly well used, led out through their country, but from disuse have now degenerated and have become most difficult to follow.

Trutch Creek.—Upon arrival at the most northwesterly end of the high plateau lying to the east of Minaker river, we turned east and were fortunate enough to find a very indistinct, old trail following down Trutch creek. This trail saved us much hardship, as by following it we missed many of the obstacles which we might otherwise have encountered if travelling blindly through the woods.

To the south of Trutch creek, the flat-topped plateau above referred to has a number of crevices down which flow creeks to swell the main stream. The country is generally timbered with green spruce, jackpine, poplar and birch to within one mile of the creek. To the north, the valley of Trutch creek is separated from the valley of Minaker river by a series of low knolls. Here the country is lightly timbered or nearly open with swampy patches. Luxuriant grass, peavine, vetch and sweet clover abound. Near the mouth of Trutch creek, a large creek flows in from the north. South of this point in the angle formed by Trutch creek and Sikanni Chief river, is a large willow and poplar scrub flat with luxuriant vegetation, affording excellent summer range. About 26,000 acres of open or park lands lie in the vicinity of Trutch creek.

Sikanni Post.—We had now left the horse transport country and arrived where, in former years, squaws or dogs carried most of the burdens. Down Sikanni Chief river an indistinct squaw trail, not used for many a day, leads to the new Hudson's Bay Company's winter post on the Sikanni Chief, at what is locally known as the "Horse Track," from the fact that the old Fort St. John-Fort Nelson trail crossed here. The squaw trail along Sikanni Chief river, though plainly visible when one looks down through the swaths of burned birch and spruce, was far from a handy trail to follow. With much wielding of axes, however, we carved our way to the Hudson's Bay Company's post, only to find that it had been washed out by the excessively high water of June. However, a family of Indians had salvaged our goods, so we were not losers from this mishap.

Here the trail from Fort St. John to Fort Nelson crosses the river and divides the main one going by way of Klua lakes to Fort Nelson, the other down river to Conroy creek and Fontas river. Due to the very extensive muskegs through which these trails pass, however, they are not recommended as high-ways of travel.

It appeared from what had been seen so far that the chief object of the trip (i.e., the study of geological formations) could be better achieved in the mountains than on the open plain. For this reason we retraced our steps to Minaker river and into the park country previously referred to. From a point on Minaker river where Pocketknife creek enters we travelled westerly through patches of clean spruce and poplar bush, alternating with large open meadow-prairies covered with buck brush and heavy crops of hay.

Prophet River.—After a week in this park area the swiftly-flowing, deep-blue waters of Prophet river were sighted. This river could be and, in fact, has been negotiated by canoe downstream at high water. As it is too swift even to track canoes upstream, the dogs or squaws constitute a pack train, and for the return journey they build either skin or spruce bark boats.

At the point where Prophet river leaves the mountains, it is very swift and is about ten chains wide with deep, transparent, blue water which is icy cold. Just to the south Klingzut mountain rises to an altitude of 5,300 feet. From this elevation a view was obtained of over two hundred miles of the main range. As far as could be seen the same characteristics obtained farther north as we had passed through.

It was noticed that just to the east of the mountains a valley extends parallel to them. This valley as seen from above has definite banks on each side. Halfway river and its tributaries flow down it to the south, while Sikanni Chief river flows across it in a trough about 600 feet below the general level of the valley and enters the hills on the east side.

Another characteristic of the country which shows up from Klingzut mountain is the fact that many creeks flow through the hills in steep narrow cañons.

From our point of vantage it was noticed that the valley of Prophet river for a distance of ten miles up stream is narrow and of a trough-like appearance. At the west base of Klingzut mountain Prophet river is joined by Besa river, a stream of equal size and swiftness coming in from the south, and flowing for the last eight miles through a cañon.



WITH PACK-TRAIN UP PROPHET RIVER

The headwaters of Prophet river may be reached with a pack-train except during periods of high water, by crossing and re-crossing the river many times.

Along Prophet river there is a faint moccasin trail. However, wherever a cliff comes to the river's edge the trail leads over it, so that with horses it is necessary to ford frequently. Our trail as travelled led over bank, ford and bar. Possibly forty per cent, in the lower stretches of the river, was over bars.

Hills timbered to tree line rise to altitudes of 5,000 to 6,500 feet. Six miles above the lower forks the river again divides into two almost equal-sized streams.

Up near the head of Prophet river and on its north side is a beautiful, fertile valley. The river takes on a more meandering trend and flows through meadows of timothy, redbtop, vetch and peavine. The hills to the north produce excellent grass right to their summits and would provide range for a large ranch. When we left in September the grass was still green on the hills and smelled like grass usually does in May.

Prophet river and Muskwa river, which lies to the north and eventually joins the Fort Nelson, rise on opposite sides of a high mountain. Tradition has it that on this mountain the gods had their home until the large number of animals there forced them to leave. For this reason it has since been named Mt. Olympus.

Mount Olympus to Laurier Pass.—From Prophet river to Laurier pass, 65 miles to the south, the mountains are snow-capped all year and are rugged with many saw-toothed pinnacles. To the east of the summit of the Rockies the hills above timberline are grass-covered plateaus. The river valleys are narrow. The south side of the valley is usually timbered with spruce and jack-pine while the north side is usually open or nearly so, and at frequent intervals in the valleys, meadows of clay loam soil supporting luxuriant hay occur.

Redfern and Fairy lakes at the head of Besa river and lying below Great-snow mountain are unrivalled for scenic beauty. Robb lake at the head of Halfway river with Robb glacier to the south presents scenes of great beauty.

An indistinct trail follows generally just east of the main range, in some cases leading between rivers over the summits of hogbacks which rise to an altitude of 6,300 feet above sea level. One trail between Robb lake and Sikanni Chief river goes through a perpetual snow field for a hundred yards.

Conclusion of Exploratory Work.—As can easily be seen from this report, the country was ideal for carrying on exploration work and preliminary mapping. It was with a feeling of regret that we turned our backs on Prophet River country and returned to Hudson Hope where we arrived October 1.

From Hudson Hope we went down Peace river by motor boat to Rolla Landing, thence by car to Grande Prairie where we took train to Edmonton and Ottawa.

SUMMARY

Game.—The entire country north and west of Hudson Hope travelled over is an excellent game country. Nine deer were sighted on our first day out. Deer, moose, and bear were everywhere to be seen up to the junction of Horn creek and Graham river. Here goat and sheep were first sighted. All the way up the range were large herds of caribou and flocks of mountain goat, and bighorn sheep. Grizzly bear were everywhere in evidence. Fish, mostly Dolly Varden, brook, speckled and rainbow trout, were to be had in every stream excepting Sikanni Chief. Outside the mountains moose were very plentiful. Fox, lynx, coyote, marten and some beaver are found everywhere.

This game, amid the mountains with their scenic grandeur, their ice-capped crowns glistening in the sunlight, their open, grassy hills affording range for flocks and herds of wild game, their rivers of deep, translucent blue, will attract tourists into a new and wonderful playground.

Possible Settlement.—Characteristic of British Columbia are its narrow valley settlements stretching along rivers and with hills beyond. In this country there is room for many such. Along Peace river from the cañon to Aylard (Twenty-mile) creek there is room for a settlement. Here are excellent opportunities to combine ranching with tourist business. Short trips could be made into the hills up Nabesche river and down Graham river; or longer trips could be made if desired. This area, as before stated, is easy of access from Prince George.

Along Halfway river and near the mouths of its tributaries are excellent benches of good soil. When these are taken up the grassy mountain valleys behind will supply summer pasture second to none.

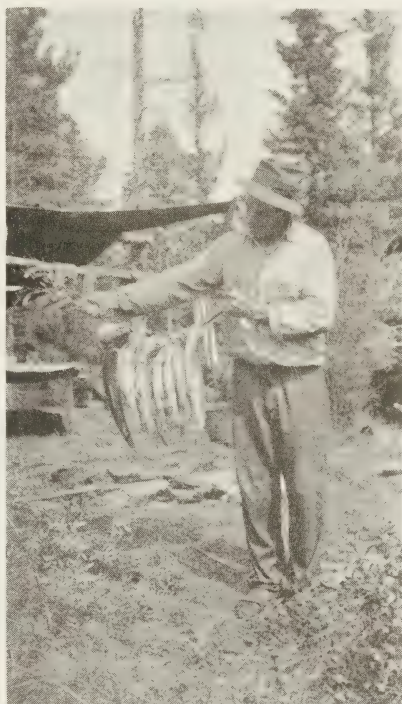
The open parks of Prophet river will supply grazing lands and it is quite within the range of possibility that agriculture will be carried on there at some future time.

Soil.—Practically everywhere the soil was of the best. Sandy loam six inches deep over sand and gravel was found in many places and clay loam over clay in others. On many of the river benches the soil is the Peace River, deep, black loam. The only places where poor soil was seen were in the mountains where it would only be fit for raising grass.



GRIZZLY BEAR IN VALLEY OF HALFWAY RIVER

Throughout the entire district there is much big game, bear, sheep, goat, caribou, moose, etc., offering a new and wonderful hunting ground for sportsmen.



AN ANGLER'S PARADISE

The mountain streams are well stocked with Dolly Varden, rainbow and brook trout and here the angler need not fish in vain.

Open to Semi-open Lands.—An approximate estimate of the open lands or semi-open lands in the area visited on this exploration would be as follows:—

Minaker river, 60 sections park, 6 inches clay loam and clay.

Prophet river, 60 sections park, 6 inches clay loam and clay.

Trutch creek, 40 sections park, clay loam.

Vicinity Brady Ranch, 25 sections park, 6 inches sandy loam and clay loam and clay and gravel.

Above Brady Ranch on Halfway river, 6 sections, 6 inches sandy loam and clay and gravel.

Graham river, 20 sections, 6 inches sandy loam and clay and gravel.

Portage to Aylard creek, 6 sections, loam and silt.

Chowade creek, 20 sections, grazing.

Hackney hills, excellent grazing.

These lands are producing good hay and will in time be ranched and possibly farmed. Major Hart in 1911 reported on the country farther north as follows:—

30,000 acres good ranch land, Lower Prophet.

20,000 acres good ranch land, Muskwa.

300,000 acres good ranch land, Toad river.

During this exploratory trip rain was recorded on 45 days out of 150 days, thus supplying abundant moisture. Frosts were noticed on June 16 and 28, August 17 and from that time on at intervals but on September 1 the grass and leaves were still green. It was hard to form an estimate of winter conditions in the country but the marks of the rabbit-chewing on trees were only about eighteen inches above the ground. Horses winter out in many parts.



MEADOW ON HALFWAY RIVER

Characteristic of Halfway river are its benches of good agricultural soil, alternately open or timbered with spruce.

As to possibilities for farming, it may be said that: One rancher on Halfway river raises cultivated hay, brome grass and western rye, also potatoes and garden truck, but he has not yet tried to ripen grain there. This is about the only evidence of farming north of Peace River valley. Another at Aylard (Twenty-mile) creek raises everything that can be raised on the Western Prairies.

Timber.—At intervals throughout the country were to be found patches of merchantable timber sufficient to supply local requirements of settlers for buildings, fences, bridges, etc. Everywhere firewood of good quality may be obtained. The only two good patches of timber large enough for commercial purposes are in the Nabesche River and Cypress Creek valleys.

In the latter an area of about fifteen sections is covered with a dense growth of spruce around thirty-six inches in diameter. The trees are tall and stately. The estimated cut would be around 200 trees to the acre, with 4 logs to a tree, 20 logs making a thousand feet or 40,000 feet B.M. per acre.

Trails.—If one wishes to go direct through the country, one route may be taken up Halfway river from its mouth or another directly from Hudson Hope by way of the Chinaman Lake trail. Both trails join above the forks of Halfway

and Graham rivers. The trail then continues up Halfway river with faint branch trails forking off at intervals. By following one or other of these northerly branches it is possible to reach almost anywhere on the northern or Prophet River sheet.

If, on the other hand, one is after game and wishes to enter the best game country as soon as possible after leaving Hudson Hope, his best plan is to ascend Peace river to Aylard (Twenty-mile) creek or Nabesche river and thence travel northerly into Graham River valley and northerly along the east side of the main range. This trail also is a good one to follow into the north at the time of high water as very little rafting would be necessary.

The northeasterly corner of the area may be reached by sleigh trail in winter or by packhorses in summer over the Fort St. John-Fort Nelson trail. This trail is very soft in summer.

If the country up Prophet or Muskwa rivers should be developed, necessitating putting in any large quantity of supplies, this Fort St. John-Fort Nelson freight trail could be extended to the mountains with very little cutting and as hay can be cut along Prophet river the cost of freighting could be much reduced for that reason.



REDFERN LAKE

Redfern lake lies at the headwaters of the Besa river, a tributary of Prophet river. There is scenic grandeur amid the Rocky mountains in this latitude just as there is farther south.

Aeroplane Landings.—In the area visited it would appear that it would be difficult to land on any of the rivers excepting Peace river and the lower Fort Nelson river, owing to the extremely swift water.

Redfern lake could be reached from the east and a take-off made the same way, as toward the north, south, and west glaciers come very close to the lake. Without much difficulty a landing and take-off might be made on Trimble lake, a body of water slightly over a mile long.

Mountain Passes.—If a railway into the country were contemplated, a good route through the mountains would appear to be up Halfway river, over Quarter Creek summit, into Sikanni Chief River country, and through the Akie pass, which pass, as before stated, is low and wide.

Water-power.—The cañon of the Peace above Hudson Hope is about fifteen miles long with steep rock sides. The fall is about 272 feet in that distance. A dam at the foot of the cañon would hold the water back between these rock walls, thus storing up a large amount of water for power development.

The same thing obtains in Sikanni Chief river. Here there is a cañon forty-two miles long with a fall of about 800 feet. The river flows through a rock-bound trough which is a natural catch basin. The walls are about 500 feet high at the head and increase in height as the river drops. A dam at the foot of this cañon with the natural catch basin above could store up a large volume of water.

Prophet river is very swift throughout.

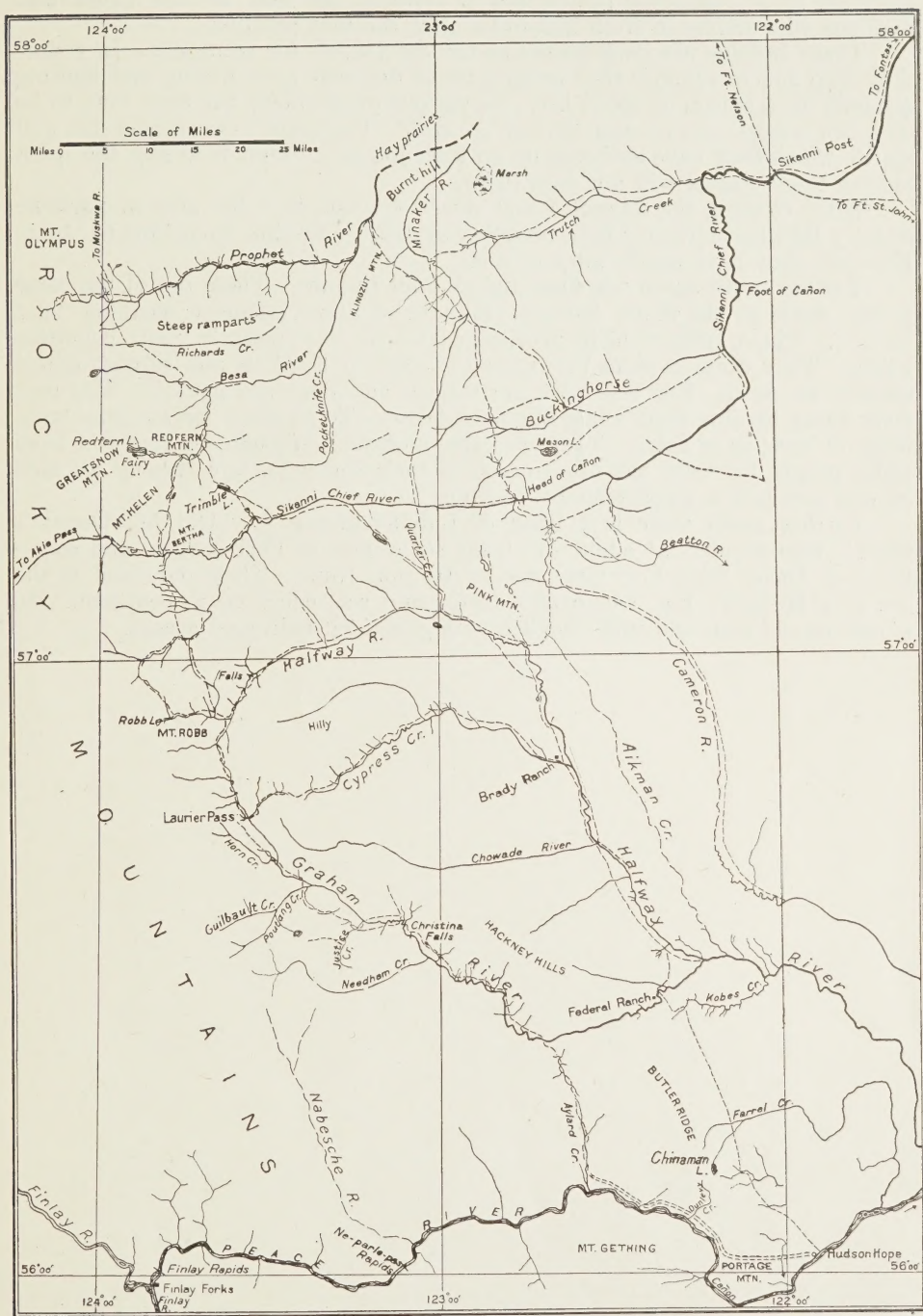
Halfway river and its various tributaries rise at about 4,000 feet and fall to about 1,500 feet at the mouth. These rivers are very swift but, flowing as they do through valleys, no particular opportune places for power development were noted, with the exception of Christina falls in Graham river. Nevertheless, it is certain that good places for development exist.

Tropical Valley.—One of the duties assigned the writer was to clear up rumours which from time to time drifted in about tropical valleys. His information was gained in two ways: from what he saw and what he heard from rational human beings. Hudson's Bay men and some trappers met told of warm sulphur springs on rivers flowing directly into Liard river, and of meadows of excellent hay in the valleys. On the work of investigation the party did not reach the vicinity of these sulphur springs, one group of which appears to be in Toad River valley, ten miles from the crossing of the Klondike trail. Horses have wintered for years in these valleys. Horses deserted by "Klondikers" in 1898 lived on there till the early twenties of this century. It was stated that warm winds through the passes in the hills cause the snow to stick to snowshoes many times during the winter. In the summer's work the party travelled through Laurier pass, through the valleys of Halfway river and its tributaries and the various valleys of Prophet river and its tributaries. These valleys are very beautiful and their meadows and hillsides covered with luxuriant grass appeal strongly to the eye.

The tales of prehistoric monsters in that country as told by some white men are a direct translation of Indian legends, and have not even the virtue of originality.

SKETCH MAP

The sketch map herewith has been prepared for the purpose only of accompanying this report. Copies of the Halfway River (latitudes 56° to 57°, longitudes 122° to 124°) and Prophet River (latitudes 57° to 58°, longitudes 122° to 124°) sheets of the National Topographic series, on the scale of four miles to the inch, showing all available mapping information in a much more detailed form and to proper projections may be obtained upon application to the Surveyor General, Topographical Survey, Department of the Interior, Ottawa, for the nominal fee of 25 cents each in sheet form or 50 cents each when linen backed or in folder form.



Indian Life.—Three different tribes of Indians trade at Hudson Hope. Here are to be found the native Beaver Indians, as well as the Crees and Saulteux who drifted in from Manitoba after the first rebellion.

These Indians use pack horses or the old travois for transport. In winter they trap and in summer they congregate at different good fishing and hunting grounds for a season of social life. At various places along the trail were to be seen two crosses, one on each side of the trail. These are to keep back the evil spirits which they have gathered up on their journey. That is to say, the spirit fearing these crosses will not pass them.

After crossing the Sikanni Chief river we found that the area of parklike country here had formerly been occupied by Beaver Indians from Fort St. John. However, they have nearly all passed on.

Farther north again one finds the Sikanni Indians. These are of the same parent stock as the Slave Indians; Sikanni in Slave language meaning "hot water". These Indians have maintained up to very recently their primitive habits. They dress in skins, use marmot robes for blankets and subsist almost entirely on meat. For transport the women and dogs are packed. The men walk along, herding them along like pack-horses. To go down stream they build boats of bark or of skins. These Indians, however, although far removed from white people (to them the usual cause of their sorrows), have nearly all died off and now only a small remnant remains.

Farther north there is a band of Indians known as "Old MacDonald's band", who wander far afield and trade sometimes at Fort Nelson, and sometimes at Dease lake, Fort Grahame or Hudson Hope. Their old chief is the son of a Hudson's Bay Company's factor and was educated in Scotland. He is now an old man and talks English with a decided halfbreed accent.

